



39766-0033SavedMay04,2007.txt

SEQUENCE LISTING

<110> Presta, Leonard G.
Shelton, David L.
Urfer, Roman

<120> Human TRK Receptors and Neurotrophic
Factor Inhibitors

<130> 39766-0033-CP2C2C1.US

<140> 10/698,597

<141> 2003-10-31

<150> 09/724,524

<151> 2000-11-27

<150> 09/156,923

<151> 1998-09-18

<150> 08/359,705

<151> 1994-12-20

<150> 08/286,846

<151> 1994-08-05

<150> 08/215,139

<151> 1994-03-18

<160> 45

<170> FastSEQ for windows Version 4.0

<210> 1

<211> 3194

<212> DNA

<213> Homo sapiens

<400> 1

```
ggaagggttta aagaagaagc cgcaaagcgc aggggaaggcc tcccggcacg ggtgggggaa 60
agcggccggt gcagcgcggg gacaggcact cgggctggca ctggctgcta gggatgtcgt 120
cctggataag gtggcatgga cccgccatgg cgcggctctg gggcttctgc tggctgggtg 180
tgggcttctg gagggccgct ttgcgctgtc ccacgtcctg caaatgcagt gcctctcga 240
tctggtgcag cgacccttct cctggcatcg tggcatttcc gagattggag cctaacagt 300
tagatcctga gaacatcacc gaaattttca tcgcaaacca gaaaaggtta gaaatcatca 360
acgaagatga tgttgaagct tatgtgggac tgagaaatct gacaattgtg gattctggat 420
taaaatttgt ggctcataaa gcatttctga aaaacagcaa cctgcagcac atcaatttta 480
cccgaaacaa actgacgagt ttgtctagga aacatttccg tcaccttgac ttgtctgaac 540
tgatcctggt gggcaatcca ttacatgct cctgtgacat tatgtggatc aagactctcc 600
aagaggctaa atccagtcga gacactcagg atttgtactg cctgaatgaa agcagcaaga 660
atattccctt ggcaaactcg cagataccca attgtggttt gccatctgca aatctggccg 720
cacctaacct cactgtggag gaaggaaagt ctatcacatt atcctgtagt gtggcagggt 780
atccggttcc taatatgtat tgggatgttg gtaacctggg ttccaaacat atgaatgaaa 840
caagccacac acagggtctc ttaaggataa ctaacatttc atccgatgac agtgggaagc 900
agatctcttg tgtggcgga aatctttagt gagaagatca agattctgtc aacctcactg 960
tgcatcttgc accaactatc acatttctcg aatctccaac ctcagaccac cactgggtgc 1020
ttccattcac tgtgaaaggc aacccaaaac cagcgttcca gtggttctat aacggggcaa 1080
tattgaatga gtccaaatac atctgtacta aaatacatgt taccaatcac acggagtacc 1140
acggctgcct ccagctggat aatcccactc acatgaacaa tggggactac actctaatag 1200
ccaagaatga gtatgggaag gatgagaaac agatttctgc tcacttcatg ggctggcctg 1260
gaattgacga tggtgcaaac ccaaattatc ctgatgtaat ttatgaagat tatggaactg 1320
```

39766-0033SavedMay04,2007.txt

```

cagcgaatga catcgggggac accacgaaca gaagtaatga aatcccttcc acagacgtca 1380
ctgataaaac cggtcgggaa catctctcgg tctatgctgt ggtggtgatt gcgtctgtgg 1440
tgggattttg ccttttggta atgctgtttc tgcttaagtt ggcaagacac tccaagtttg 1500
gcatgaaagg cccagcctcc gttatcagca atgatgatga ctctgccagc ccactccatc 1560
acatctccaa tgggagtaac actccatctt cttcggaagg tggcccagat gctgtcatta 1620
ttggaatgac caagatccct gtcattgaaa atccccagta ctttggcatc accaacagtc 1680
agctcaagcc agacacattt gttcagcaca tcaagcgaca taacattgtt ctgaaaaggg 1740
agctaggcga aggagccttt ggaaaagtgt tcctagctga atgctataac ctctgtcctg 1800
agcaggacaa gatcttggtg gcagtgaaga ccctgaagga tgccagtgac aatgcacgca 1860
aggacttcca ccgtgaggcc gagctcctga ccaacctcca gcatgagcac atcgtcaagt 1920
tctatggcgt ctgctgtggg ggcgaccccc tcatcatggt ctttgagtac atgaagcatg 1980
gggacctcaa caagttcctc agggcacacg gccctgatgc cgtgctgatg gctgagggca 2040
acccgcccac ggaactgacg cagtcgcaga tgctgcata agcccagcag atcgccgcgg 2100
gcatggtcta cctggcgtcc cagcacttctg tgcaccgcga tttggccacc aggaactgcc 2160
tggtcgggga gaacttgctg gtgaaaatcg gggacttttg gatgtcccgg gacgtgtaca 2220
gcactgacta ctacagggtc ggtggccaca caatgctgcc cattcgctgg atgcctccag 2280
agagcatcat gtacaggaaa ttcacgacgg aaagcgacgt ctggagcctg ggggtcgtgt 2340
tgtgggagat tttcacctat ggcaaacagc cctggtacca gctgtcaaac aatgaggtga 2400
tagagtgtat cactcagggc cgagtcctgc agcgacccc cagctgcccc caggaggtgt 2460
atgagctgat gctgggggtgc tggcagcgag agccccacat gaggaagaac atcaagggca 2520
tccataccct ccttcagaac ttggccaagg catctccggt ctacctggac attctaggct 2580
agggcccttt tccccagacc gatccttccc aacgtactcc tcagacgggc tgagaggtatg 2640
aacatctttt aactgccgct ggaggccacc aagctgctct ccttactctt gacagtatta 2700
acatcaaaga ctccgagaag ctctcgaggg aagcagtggt tacttcttca tccatagaca 2760
cagtattgac ttcttttttg cattatctct ttctctcttt ccatctccct tggttgttcc 2820
tttttctttt ttttaatttt ctttttcttc ttttttttcg tcttccctgc ttcacgattc 2880
ttaccctttt ttttgaatca atctggcttc tgcattacta ttaactctgc atagacaaag 2940
gccttaacaa acgtaatttg ttatatcagc agacactcca gtttgccac cacaactaac 3000
aatgccttgt tgtattcctg cttttgatgt ggatgaaaaa aagggaaaac aaatatttca 3060
cttaaacctt gtcacttctg ctgtacagat atcgagagtt tctatggatt cacttctatt 3120
tatttattat tattactgtt cttattgttt ttggatggct taagcctgtg tataaaaaaa 3180
aaaaaaaatc taga 3194

```

<210> 2
 <211> 822
 <212> PRT
 <213> Homo sapiens

<400> 2

Met	Ser	Ser	Trp	Ile	Arg	Trp	His	Gly	Pro	Ala	Met	Ala	Arg	Leu	Trp
1				5				10						15	
Gly	Phe	Cys	Trp	Leu	Val	Val	Gly	Phe	Trp	Arg	Ala	Ala	Phe	Ala	Cys
			20				25						30		
Pro	Thr	Ser	Cys	Lys	Cys	Ser	Ala	Ser	Arg	Ile	Trp	Cys	Ser	Asp	Pro
		35				40						45			
Ser	Pro	Gly	Ile	Val	Ala	Phe	Pro	Arg	Leu	Glu	Pro	Asn	Ser	Val	Asp
	50				55					60					
Pro	Glu	Asn	Ile	Thr	Glu	Ile	Phe	Ile	Ala	Asn	Gln	Lys	Arg	Leu	Glu
65			70			75								80	
Ile	Ile	Asn	Glu	Asp	Asp	Val	Glu	Ala	Tyr	Val	Gly	Leu	Arg	Asn	Leu
		85				90								95	
Thr	Ile	Val	Asp	Ser	Gly	Leu	Lys	Phe	Val	Ala	His	Lys	Ala	Phe	Leu
		100				105							110		
Lys	Asn	Ser	Asn	Leu	Gln	His	Ile	Asn	Phe	Thr	Arg	Asn	Lys	Leu	Thr
	115				120							125			
Ser	Leu	Ser	Arg	Lys	His	Phe	Arg	His	Leu	Asp	Leu	Ser	Glu	Leu	Ile
	130				135						140				
Leu	Val	Gly	Asn	Pro	Phe	Thr	Cys	Ser	Cys	Asp	Ile	Met	Trp	Ile	Lys
145			150						155					160	
Thr	Leu	Gln	Glu	Ala	Lys	Ser	Ser	Pro	Asp	Thr	Gln	Asp	Leu	Tyr	Cys
		165				170							175		
Leu	Asn	Glu	Ser	Lys	Asn	Ile	Pro	Leu	Ala	Asn	Leu	Gln	Ile	Pro	
		180				185						190			

Asn	Cys	Gly	Leu	Pro	Ser	Ala	Asn	Leu	Ala	Ala	Pro	Asn	Leu	Thr	Val
		195					200					205			
Glu	Glu	Gly	Lys	Ser	Ile	Thr	Leu	Ser	Cys	Ser	Val	Ala	Gly	Asp	Pro
	210					215					220				
Val	Pro	Asn	Met	Tyr	Trp	Asp	Val	Gly	Asn	Leu	Val	Ser	Lys	His	Met
225					230					235					240
Asn	Glu	Thr	Ser	His	Thr	Gln	Gly	Ser	Leu	Arg	Ile	Thr	Asn	Ile	Ser
				245					250					255	
Ser	Asp	Asp	Ser	Gly	Lys	Gln	Ile	Ser	Cys	Val	Ala	Glu	Asn	Leu	Val
			260					265					270		
Gly	Glu	Asp	Gln	Asp	Ser	Val	Asn	Leu	Thr	Val	His	Phe	Ala	Pro	Thr
		275					280					285			
Ile	Thr	Phe	Leu	Glu	Ser	Pro	Thr	Ser	Asp	His	His	Trp	Cys	Ile	Pro
	290					295					300				
Phe	Thr	Val	Lys	Gly	Asn	Pro	Lys	Pro	Ala	Leu	Gln	Trp	Phe	Tyr	Asn
305					310					315					320
Gly	Ala	Ile	Leu	Asn	Glu	Ser	Lys	Tyr	Ile	Cys	Thr	Lys	Ile	His	Val
				325					330					335	
Thr	Asn	His	Thr	Glu	Tyr	His	Gly	Cys	Leu	Gln	Leu	Asp	Asn	Pro	Thr
			340					345					350		
His	Met	Asn	Asn	Gly	Asp	Tyr	Thr	Leu	Ile	Ala	Lys	Asn	Glu	Tyr	Gly
		355					360					365			
Lys	Asp	Glu	Lys	Gln	Ile	Ser	Ala	His	Phe	Met	Gly	Trp	Pro	Gly	Ile
	370					375					380				
Asp	Asp	Gly	Ala	Asn	Pro	Asn	Tyr	Pro	Asp	Val	Ile	Tyr	Glu	Asp	Tyr
385					390					395					400
Gly	Thr	Ala	Ala	Asn	Asp	Ile	Gly	Asp	Thr	Thr	Asn	Arg	Ser	Asn	Glu
				405					410					415	
Ile	Pro	Ser	Thr	Asp	Val	Thr	Asp	Lys	Thr	Gly	Arg	Glu	His	Leu	Ser
			420					425					430		
Val	Tyr	Ala	Val	Val	Val	Ile	Ala	Ser	Val	Val	Gly	Phe	Cys	Leu	Leu
		435					440					445			
Val	Met	Leu	Phe	Leu	Leu	Lys	Leu	Ala	Arg	His	Ser	Lys	Phe	Gly	Met
	450					455					460				
Lys	Gly	Pro	Ala	Ser	Val	Ile	Ser	Asn	Asp	Asp	Asp	Ser	Ala	Ser	Pro
465					470					475					480
Leu	His	His	Ile	Ser	Asn	Gly	Ser	Asn	Thr	Pro	Ser	Ser	Ser	Glu	Gly
				485					490					495	
Gly	Pro	Asp	Ala	Val	Ile	Ile	Gly	Met	Thr	Lys	Ile	Pro	Val	Ile	Glu
			500					505					510		
Asn	Pro	Gln	Tyr	Phe	Gly	Ile	Thr	Asn	Ser	Gln	Leu	Lys	Pro	Asp	Thr
		515					520					525			
Phe	Val	Gln	His	Ile	Lys	Arg	His	Asn	Ile	Val	Leu	Lys	Arg	Glu	Leu
	530					535				540					
Gly	Glu	Gly	Ala	Phe	Gly	Lys	Val	Phe	Leu	Ala	Glu	Cys	Tyr	Asn	Leu
545					550					555					560
Cys	Pro	Glu	Gln	Asp	Lys	Ile	Leu	Val	Ala	Val	Lys	Thr	Leu	Lys	Asp
				565					570					575	
Ala	Ser	Asp	Asn	Ala	Arg	Lys	Asp	Phe	His	Arg	Glu	Ala	Glu	Leu	Leu
			580					585					590		
Thr	Asn	Leu	Gln	His	Glu	His	Ile	Val	Lys	Phe	Tyr	Gly	Val	Cys	Val
		595					600					605			
Glu	Gly	Asp	Pro	Leu	Ile	Met	Val	Phe	Glu	Tyr	Met	Lys	His	Gly	Asp
	610					615					620				
Leu	Asn	Lys	Phe	Leu	Arg	Ala	His	Gly	Pro	Asp	Ala	Val	Leu	Met	Ala
625					630					635					640
Glu	Gly	Asn	Pro	Pro	Thr	Glu	Leu	Thr	Gln	Ser	Gln	Met	Leu	His	Ile
				645					650					655	
Ala	Gln	Gln	Ile	Ala	Ala	Gly	Met	Val	Tyr	Leu	Ala	Ser	Gln	His	Phe
			660					665					670		
Val	His	Arg	Asp	Leu	Ala	Thr	Arg	Asn	Cys	Leu	Val	Gly	Glu	Asn	Leu
		675					680					685			
Leu	Val	Lys	Ile	Gly	Asp	Phe	Gly	Met	Ser	Arg	Asp	Val	Tyr	Ser	Thr

690 695 700
 Asp Tyr Tyr Arg Val Gly Gly His Thr Met Leu Pro Ile Arg Trp Met
 705 710 715 720
 Pro Pro Glu Ser Ile Met Tyr Arg Lys Phe Thr Thr Glu Ser Asp Val
 725 730 735
 Trp Ser Leu Gly Val Val Leu Trp Glu Ile Phe Thr Tyr Gly Lys Gln
 740 745 750
 Pro Trp Tyr Gln Leu Ser Asn Asn Glu Val Ile Glu Cys Ile Thr Gln
 755 760 765
 Gly Arg Val Leu Gln Arg Pro Arg Thr Cys Pro Gln Glu Val Tyr Glu
 770 775 780
 Leu Met Leu Gly Cys Trp Gln Arg Glu Pro His Met Arg Lys Asn Ile
 785 790 795 800
 Lys Gly Ile His Thr Leu Leu Gln Asn Leu Ala Lys Ala Ser Pro Val
 805 810 815
 Tyr Leu Asp Ile Leu Gly
 820

<210> 3

<211> 1870

<212> DNA

<213> Homo sapiens

<400> 3

ggaaggttta aagaagaagc cgcaaagcgc agggaaggcc tcccggcacg ggtgggggaa 60
 agcggccggt gcagcgcggt gacaggcact cgggctggca ctggctgcta gggatgtcgt 120
 cctggataag gtggcatgga cccgccatgg cgcggtcttg gggcttctgc tggctgggtg 180
 tgggcttctg gagggccgct ttcgcctgtc ccacgtcctg caaatgcagt gcctctcggg 240
 tctggtgcag cgacccttct cctggcatcg tggcatttcc gagattggag cctaacagtg 300
 tagatcctga gaacatcacc gaaattttca tcgcaaacca gaaaaggtta gaaatcatca 360
 acgaagatga tgttgaagct tatgtgggac tgagaaatct gacaattgtg gattctggat 420
 taaaatttgt ggctcataaa gcatttctga aaaacagcaa cctgcagcac atcaatttta 480
 cccgaaacaa actgacgagt ttgtctagga aacatttccg tcaccttgac ttgtctgaac 540
 tgatcctggt gggcaatcca ttacatgct cctgtgacat tatgtggatc aagactctcc 600
 aagaggctaa atccagtcca gacactcagg atttgtactg cctgaatgaa agcagcaaga 660
 atattccccct ggcaaacctg cagataccca attgtggttt gccatctgca aatctggccg 720
 cacctaacct cactgtggag gaaggaaagt ctatcacatt atcctgtagt gtggcagggtg 780
 atccggttcc taatatgtat tgggatgttg gtaacctggt ttccaaacat atgaatgaaa 840
 caagccacac acagggctcc ttaaggataa ctaacatttc atccgatgac agtgggaagc 900
 agatctcttg tgtggcggaa aatctttaga gagaagatca agattctgtc aacctcactg 960
 tgcattttgc accaactatc acatttctcg aatctccaac ctacagaccac cactggtgca 1020
 ttccattcac tgtgaaaggc aacccaaaac cagcgcttca gtggttctat aacggggcaa 1080
 tattgaatga gtccaaatac atctgtacta aaatacatgt taccaatcac acggagtacc 1140
 acggctgcct ccagctggat aatcccactc acatgaacaa tggggactac actctaatag 1200
 ccaagaatga gtatgggaag gatgagaaac agatttctgc tcacttcatt ggctggcctg 1260
 gaattgacga tggtgcaaac ccaaattatc ctgatgtaat ttatgaagat tatggaactg 1320
 cagcgaatga catcggggac accacgaaca gaagtaatga aatcccttcc acagacgtca 1380
 ctgataaaaac cggtcgggaa catctctcgg tctatgctgt ggtggtgatt gcgtctgttg 1440
 tgggattttg ccttttggtg atgctgtttc tgcttaagtt ggcaagacac tccaagtttg 1500
 gcatgaaagg ttttgttttg tttcataaga tcccactgga tgggtagctg aaataaagga 1560
 aaagacagag aaaggggctg tgggtgcttg tgggtgatgc tgccatgtaa gctggactcc 1620
 tgggactgct gttggcttat cccgggaagt gctgcttacc tggggttttc tggtagatgt 1680
 gggcggtgtt tggaggctgt actatatgaa gcctgcatat actgtgagct gtgattgggg 1740
 aacaccaatg cagaggtaac tctcaggcag ctaagcagca cctcaagaaa acatgttaaa 1800
 ttaatgcttc tcttcttaca gtagttcaaa taaaaaactg aaatgaaatc ccattggatt 1860
 gtacttctct 1870

<210> 4

<211> 477

<212> PRT

<213> Homo sapiens

<400> 4

```

Met Ser Ser Trp Ile Arg Trp His Gly Pro Ala Met Ala Arg Leu Trp
1      5      10      15
Gly Phe Cys Trp Leu Val Val Gly Phe Trp Arg Ala Ala Phe Ala Cys
20      25      30
Pro Thr Ser Cys Lys Cys Ser Ala Ser Arg Ile Trp Cys Ser Asp Pro
35      40      45
Ser Pro Gly Ile Val Ala Phe Pro Arg Leu Glu Pro Asn Ser Val Asp
50      55      60
Pro Glu Asn Ile Thr Glu Ile Phe Ile Ala Asn Gln Lys Arg Leu Glu
65      70      75      80
Ile Ile Asn Glu Asp Asp Val Glu Ala Tyr Val Gly Leu Arg Asn Leu
85      90      95
Thr Ile Val Asp Ser Gly Leu Lys Phe Val Ala His Lys Ala Phe Leu
100     105     110
Lys Asn Ser Asn Leu Gln His Ile Asn Phe Thr Arg Asn Lys Leu Thr
115     120     125
Ser Leu Ser Arg Lys His Phe Arg His Leu Asp Leu Ser Glu Leu Ile
130     135     140
Leu Val Gly Asn Pro Phe Thr Cys Ser Cys Asp Ile Met Trp Ile Lys
145     150     155     160
Thr Leu Gln Glu Ala Lys Ser Ser Pro Asp Thr Gln Asp Leu Tyr Cys
165     170     175
Leu Asn Glu Ser Ser Lys Asn Ile Pro Leu Ala Asn Leu Gln Ile Pro
180     185     190
Asn Cys Gly Leu Pro Ser Ala Asn Leu Ala Ala Pro Asn Leu Thr Val
195     200     205
Glu Glu Gly Lys Ser Ile Thr Leu Ser Cys Ser Val Ala Gly Asp Pro
210     215     220
Val Pro Asn Met Tyr Trp Asp Val Gly Asn Leu Val Ser Lys His Met
225     230     235     240
Asn Glu Thr Ser His Thr Gln Gly Ser Leu Arg Ile Thr Asn Ile Ser
245     250     255
Ser Asp Asp Ser Gly Lys Gln Ile Ser Cys Val Ala Glu Asn Leu Val
260     265     270
Gly Glu Asp Gln Asp Ser Val Asn Leu Thr Val His Phe Ala Pro Thr
275     280     285
Ile Thr Phe Leu Glu Ser Pro Thr Ser Asp His His Trp Cys Ile Pro
290     295     300
Phe Thr Val Lys Gly Asn Pro Lys Pro Ala Leu Gln Trp Phe Tyr Asn
305     310     315     320
Gly Ala Ile Leu Asn Glu Ser Lys Tyr Ile Cys Thr Lys Ile His Val
325     330     335
Thr Asn His Thr Glu Tyr His Gly Cys Leu Gln Leu Asp Asn Pro Thr
340     345     350
His Met Asn Asn Gly Asp Tyr Thr Leu Ile Ala Lys Asn Glu Tyr Gly
355     360     365
Lys Asp Glu Lys Gln Ile Ser Ala His Phe Met Gly Trp Pro Gly Ile
370     375     380
Asp Asp Gly Ala Asn Pro Asn Tyr Pro Asp Val Ile Tyr Glu Asp Tyr
385     390     395     400
Gly Thr Ala Ala Asn Asp Ile Gly Asp Thr Thr Asn Arg Ser Asn Glu
405     410     415
Ile Pro Ser Thr Asp Val Thr Asp Lys Thr Gly Arg Glu His Leu Ser
420     425     430
Val Tyr Ala Val Val Val Ile Ala Ser Val Val Gly Phe Cys Leu Leu
435     440     445
Val Met Leu Phe Leu Leu Lys Leu Ala Arg His Ser Lys Phe Gly Met
450     455     460
Lys Gly Phe Val Leu Phe His Lys Ile Pro Leu Asp Gly
465     470     475

```

<210> 5
 <211> 2715
 <212> DNA
 <213> Homo sapiens

<400> 5
 ggatccgcgt cggagatgga tgtctctctt tgcccagcca agtgtagttt ctggcggatt 60
 ttcttgctgg gaagcgtctg gctggactat gtgggctccg tgctggcttg ccttgcaaat 120
 tgtgtctgca gcaagactga gatcaattgc cggcgcccg acgatgggaa cctcttcccc 180
 ctcttggaag ggcaggattc agggaaacagc aatgggaacg ccaatatcaa catcacggac 240
 atctcaagga atatcacttc catacacata gagaactggc gcagtcttca cacgctcaac 300
 gccgtggaca tggagctcta caccggactt caaaagctga ccatcaagaa ctccaggactt 360
 cggagcattc agcccagagc ctttgccaag aacccccatt tgcgttatat aaacctgtca 420
 agtaaccggc tcaccacact ctctgtggcag ctcttccaga cgctgagtct tcgggaattg 480
 cagttggagg agaacttttt caactgcagc tgtgacatcc gctggatgca gctctggcag 540
 gagcaggggg aggccaaagc caacagccag aacctctact gcatcaatgc tgatggctcc 600
 cagcttcctc tcttccgcat gaacatcagt cagtgtgacc ttcttgagat cagcgtgagc 660
 cacgtcaacc tgaccgtacg agaggggtgac aatgctgtta tcacttgcaa tggctctgga 720
 tcaccccttc ctgatgtgga ctggatagtc actgggctgc agtccatcaa cactcaccag 780
 accaatctga actggaccaaa tgttcatgcc atcaacttga cgctggtgaa tgtgacgagt 840
 gaggacaatg gcttcaccct cagctgcatt gcagagaacg tgggtggcat gagcaatgcc 900
 agtgttggcc tcactgtcta ctatccccc cgtgtggtga gcctggagga gcctgagctg 960
 cgcttgagc actgcatcga gtttgtggtg cgtggcaacc cccaccaaac gctgactggt 1020
 ctgcacaatg ggcagcctct gcgggagtc aagatcatcc atgtggaata ctaccaagag 1080
 ggagagattt ccgagggctg cctgctcttc aacaagccca cccactacaa caatggcaac 1140
 tataccctca ttgccaaaaa cccactgggc acagccaacc agaccatcaa tggccacttc 1200
 ctcaaggagc cctttccaga gagcacggat aactttatct tgtttgacga agtgagtccc 1260
 acacctccta tcactgtgac ccacaaacca gaagaagaca cttttggggt atccatagca 1320
 gttggacttg ctgcttttgc ctgtgtcctg ttggtggttc tcttcgtcat gatcaacaaa 1380
 tatggtcgac ggtccaaatt tggaaatgaag ggtcccgtgg ctgtcatcag tggtagaggag 1440
 gactcagcca gccactgca ccacatcaac cacggcatca ccacgccctc gtcactggat 1500
 gccgggcccg aactgtggt cattggcatg actcgcattc ctgtcattga gaacccccag 1560
 tacttccgtc agggacacaa ctgccacagt cgggacacgt atgtgcagca cattaagagg 1620
 agagacatcg tctgaagcg agaactgggt gagggagcct ttggaaagggt cttcctggcc 1680
 gagtgtctaca acctcagccc gaccaaggac aagatgcttg tggctgtgaa ggccctgaag 1740
 gatccacccc tggctgcccg gaaggatttc cagagggagg ccgagctgct caccaacctg 1800
 cagcatgagc acattgtcaa gttctatgga gtgtgcggcg atggggaccc cctcatcatg 1860
 gtctttgaat acatgaagca tggagacctg aataagttcc tcagggccca tgggccagat 1920
 gcaatgatcc ttgttgatgg acagccacgc caggccaagg gtgagctggg gctctcccaa 1980
 atgctccaca ttgccagtca gatcgccctg ggtatggtgt acctggcctc ccagcacttt 2040
 gtgcaccgag acctggccac caggaactgc ctggttgagg cgaatctgct agtgaagatt 2100
 ggggacttcg gcatgtccag agatgtctac agcacggatt attacaggct ctttaattca 2160
 tctggaaatg atttttgtat atggtgtgag gtgggaggac acaccatgct ccccatctgc 2220
 tggatgcctc ctgaaagcat catgtaccgg aagttcacta cagagagtga tgtatggagc 2280
 ttcggggtga tcctctggga gatcttcacc tatggaaagc agccatgggt ccaactctca 2340
 aacacggagg tcattgagtg cattacccaa ggtcgtgttt tggagcggcc ccgagtctgc 2400
 cccaaagagg tgtacgatgt catgctgggg tgctggcaga gggaaccaca gcagcgggtg 2460
 aacatcaagg agatctacaa aatcctccat gctttgggga aggccacccc aatctacctg 2520
 gacattcttg gctagtgggt gctggtgggt atgaattcat actctgttgc ctctctctc 2580
 cctgcctcac atctcccttc cacctcacia ctccttccat ccttgactga agcgaacatc 2640
 ttcatataaa ctcaagtgcc tgctacacat acaacactga aaaaaggaaa aaaaaagaaa 2700
 aaaaaaaaaa accgc 2715

<210> 6
 <211> 839
 <212> PRT
 <213> Homo sapiens

<400> 6
 Met Asp Val Ser Leu Cys Pro Ala Lys Cys Ser Phe Trp Arg Ile Phe
 1 5 10 15
 Leu Leu Gly Ser Val Trp Leu Asp Tyr Val Gly Ser Val Leu Ala Cys
 20 25 30

Pro	Ala	Asn	Cys	Val	Cys	Ser	Lys	Thr	Glu	Ile	Asn	Cys	Arg	Arg	Pro
		35					40					45			
Asp	Asp	Gly	Asn	Leu	Phe	Pro	Leu	Leu	Glu	Gly	Gln	Asp	Ser	Gly	Asn
	50					55					60				
Ser	Asn	Gly	Asn	Ala	Asn	Ile	Asn	Ile	Thr	Asp	Ile	Ser	Arg	Asn	Ile
65					70					75				80	
Thr	Ser	Ile	His	Ile	Glu	Asn	Trp	Arg	Ser	Leu	His	Thr	Leu	Asn	Ala
				85					90					95	
Val	Asp	Met	Glu	Leu	Tyr	Thr	Gly	Leu	Gln	Lys	Leu	Thr	Ile	Lys	Asn
			100					105					110		
Ser	Gly	Leu	Arg	Ser	Ile	Gln	Pro	Arg	Ala	Phe	Ala	Lys	Asn	Pro	His
		115					120					125			
Leu	Arg	Tyr	Ile	Asn	Leu	Ser	Ser	Asn	Arg	Leu	Thr	Thr	Leu	Ser	Trp
	130					135					140				
Gln	Leu	Phe	Gln	Thr	Leu	Ser	Leu	Arg	Glu	Leu	Gln	Leu	Glu	Gln	Asn
145					150					155					160
Phe	Phe	Asn	Cys	Ser	Cys	Asp	Ile	Arg	Trp	Met	Gln	Leu	Trp	Gln	Glu
				165					170					175	
Gln	Gly	Glu	Ala	Lys	Leu	Asn	Ser	Gln	Asn	Leu	Tyr	Cys	Ile	Asn	Ala
			180					185					190		
Asp	Gly	Ser	Gln	Leu	Pro	Leu	Phe	Arg	Met	Asn	Ile	Ser	Gln	Cys	Asp
		195					200					205			
Leu	Pro	Glu	Ile	Ser	Val	Ser	His	Val	Asn	Leu	Thr	Val	Arg	Glu	Gly
	210					215					220				
Asp	Asn	Ala	Val	Ile	Thr	Cys	Asn	Gly	Ser	Gly	Ser	Pro	Leu	Pro	Asp
225					230					235					240
Val	Asp	Trp	Ile	Val	Thr	Gly	Leu	Gln	Ser	Ile	Asn	Thr	His	Gln	Thr
				245					250					255	
Asn	Leu	Asn	Trp	Thr	Asn	Val	His	Ala	Ile	Asn	Leu	Thr	Leu	Val	Asn
			260					265					270		
Val	Thr	Ser	Glu	Asp	Asn	Gly	Phe	Thr	Leu	Thr	Cys	Ile	Ala	Glu	Asn
		275					280					285			
Val	Val	Gly	Met	Ser	Asn	Ala	Ser	Val	Ala	Leu	Thr	Val	Tyr	Tyr	Pro
	290					295					300				
Pro	Arg	Val	Val	Ser	Leu	Glu	Glu	Pro	Glu	Leu	Arg	Leu	Glu	His	Cys
305					310					315					320
Ile	Glu	Phe	Val	Val	Arg	Gly	Asn	Pro	Pro	Pro	Thr	Leu	His	Trp	Leu
				325					330					335	
His	Asn	Gly	Gln	Pro	Leu	Arg	Glu	Ser	Lys	Ile	Ile	His	Val	Glu	Tyr
			340					345					350		
Tyr	Gln	Glu	Gly	Glu	Ile	Ser	Glu	Gly	Cys	Leu	Leu	Phe	Asn	Lys	Pro
		355					360					365			
Thr	His	Tyr	Asn	Asn	Gly	Asn	Tyr	Thr	Leu	Ile	Ala	Lys	Asn	Pro	Leu
	370					375					380				
Gly	Thr	Ala	Asn	Gln	Thr	Ile	Asn	Gly	His	Phe	Leu	Lys	Glu	Pro	Phe
385					390					395					400
Pro	Glu	Ser	Thr	Asp	Asn	Phe	Ile	Leu	Phe	Asp	Glu	Val	Ser	Pro	Thr
				405					410				415		
Pro	Pro	Ile	Thr	Val	Thr	His	Lys	Pro	Glu	Glu	Asp	Thr	Phe	Gly	Val
			420					425					430		
Ser	Ile	Ala	Val	Gly	Leu	Ala	Ala	Phe	Ala	Cys	Val	Leu	Leu	Val	Val
		435					440					445			
Leu	Phe	Val	Met	Ile	Asn	Lys	Tyr	Gly	Arg	Arg	Ser	Lys	Phe	Gly	Met
	450					455					460				
Lys	Gly	Pro	Val	Ala	Val	Ile	Ser	Gly	Glu	Glu	Asp	Ser	Ala	Ser	Pro
465					470					475					480
Leu	His	His	Ile	Asn	His	Gly	Ile	Thr	Thr	Pro	Ser	Ser	Leu	Asp	Ala
				485					490					495	
Gly	Pro	Asp	Thr	Val	Val	Ile	Gly	Met	Thr	Arg	Ile	Pro	Val	Ile	Glu
			500					505					510		
Asn	Pro	Gln	Tyr	Phe	Arg	Gln	Gly	His	Asn	Cys	His	Lys	Pro	Asp	Thr
		515					520					525			
Tyr	Val	Gln	His	Ile	Lys	Arg	Arg	Asp	Ile	Val	Leu	Lys	Arg	Glu	Leu

530 535 540
 Gly Glu Gly Ala Phe Gly Lys Val Phe Leu Ala Glu Cys Tyr Asn Leu
 545 550 555 560
 Ser Pro Thr Lys Asp Lys Met Leu Val Ala Val Lys Ala Leu Lys Asp
 565 570 575
 Pro Thr Leu Ala Ala Arg Lys Asp Phe Gln Arg Glu Ala Glu Leu Leu
 580 585 590
 Thr Asn Leu Gln His Glu His Ile Val Lys Phe Tyr Gly Val Cys Gly
 595 600 605
 Asp Gly Asp Pro Leu Ile Met Val Phe Glu Tyr Met Lys His Gly Asp
 610 615 620
 Leu Asn Lys Phe Leu Arg Ala His Gly Pro Asp Ala Met Ile Leu Val
 625 630 635 640
 Asp Gly Gln Pro Arg Gln Ala Lys Gly Glu Leu Gly Leu Ser Gln Met
 645 650 655
 Leu His Ile Ala Ser Gln Ile Ala Ser Gly Met Val Tyr Leu Ala Ser
 660 665 670
 Gln His Phe Val His Arg Asp Leu Ala Thr Arg Asn Cys Leu Val Gly
 675 680 685
 Ala Asn Leu Leu Val Lys Ile Gly Asp Phe Gly Met Ser Arg Asp Val
 690 695 700
 Tyr Ser Thr Asp Tyr Tyr Arg Leu Phe Asn Pro Ser Gly Asn Asp Phe
 705 710 715 720
 Cys Ile Trp Cys Glu Val Gly Gly His Thr Met Leu Pro Ile Arg Trp
 725 730 735
 Met Pro Pro Glu Ser Ile Met Tyr Arg Lys Phe Thr Thr Glu Ser Asp
 740 745 750
 Val Trp Ser Phe Gly Val Ile Leu Trp Glu Ile Phe Thr Tyr Gly Lys
 755 760 765
 Gln Pro Trp Phe Gln Leu Ser Asn Thr Glu Val Ile Glu Cys Ile Thr
 770 775 780
 Gln Gly Arg Val Leu Glu Arg Pro Arg Val Cys Pro Lys Glu Val Tyr
 785 790 795 800
 Asp Val Met Leu Gly Cys Trp Gln Arg Glu Pro Gln Gln Arg Leu Asn
 805 810 815
 Ile Lys Glu Ile Tyr Lys Ile Leu His Ala Leu Gly Lys Ala Thr Pro
 820 825 830
 Ile Tyr Leu Asp Ile Leu Gly
 835

<210> 7

<211> 1858

<212> DNA

<213> Homo sapiens

<400> 7

ggatccgcgt cggagatgga tgtctctctt tgcccagcca agtgtagttt ctggcggatt 60
 ttcttgctgg gaagcgtctg gctggactat gtgggctccg tgctggcttg ccctgcaaatt 120
 tgtgtctgca gcaagactga gatcaattgc cggcggcccg acgatgggaa cctcttcccc 180
 ctcttggaag ggcaggattc agggaaacagc aatgggaacg ccaatatcaa catcacggac 240
 atctcaagga atatcacttc catacacata gagaactggc gcagtcttca cacgctcaac 300
 gccgtggaca tggagctcta caccggactt caaaagctga ccatcaagaa ctcaggactt 360
 cggagcattc agcccagagc ctttgccaag aacccccatt tgcgttatat aaacctgtca 420
 agtaaccggc tcaccacact ctcttgccag ctcttccaga cgctgagtct tcgggaattg 480
 cagttggagc agaacttttt caactgcagc tgtgacatcc gctggatgca gctctggcag 540
 gagcaggggg aggccaaagt caacagccag aacctctact gcatcaatgc tgatggctcc 600
 cagcttcctc tcttcgcat gaacatcagc cagtgtgacc ttcctgagat cagcgtgagc 660
 cacgtcaacc tgaccgtacg agaggggtgac aatgctgtta tcacttgcaa tggctctgga 720
 tcacccttc ctgatgtgga ctggatagtc actgggctgc agtccatcaa cactcaccag 780
 accaatctga actggaccaa tgttcatgcc atcaacttga cgctggtgaa tgtgacgagt 840
 gaggacaatg gcttcaccct gacgtgcatt gcagagaacg tgggtgggcat gagcaatgcc 900
 agtgttgccc tcactgtcta ctatccccc cgtgtgtgga gcctggagga gcctgagctg 960

39766-0033SavedMay04,2007.txt

```

cgcctggagc actgcatcga gtttgtggtg cgtggcaacc cccaccaac gctgcactgg 1020
ctgcacaatg ggcagcctct gcgggagtc aagatcatcc atgtggaata ctaccaagag 1080
ggagagattt ccgagggtcg cctgctcttc aacaagccca cccactacaa caatggcaac 1140
tataccctca ttgccaaaaa cccactgggc acagccaacc agaccatcaa tggccacttc 1200
ctcaaggagc cttttccaga gaggacggat aactttatct tgtttgacga agtgagtccc 1260
acacctccta tctactgtgac ccacaaacca gaagaagaca cttttggggg atccatagca 1320
gttggacttg ctgcttttgc ctgtgtcctg ttggtggttc tcttcgtcat gatcaacaaa 1380
tatggtcgac ggtccaaatt tggaatgaag ggtcccgtgg ctgtcatcag tggtgaggag 1440
gactcagcca gccactgca ccacatcaac cacggcatca ccacgccctc gtcactggat 1500
gccgggcccc acactgtggt cattggcatg actcgcattc ctgtcattga gaacccccag 1560
tacttccgtc agggacacaa ctgccacaag ccggacacgt ggggtcttttc aaacatagac 1620
aatcatggga tattaacttt gaaggacaat agagatcatc tagtcccatc aactcactat 1680
atatatgagg aacctgaggt ccagagtggg gaagtgtctt acccaagggt acatgggttc 1740
agagaaatta tgttgaatcc aataagcctt cccggacatt ccaagcctct taaccatggc 1800
atctatgttg aggatgtcaa tgtttatttc agcaaaggac gtcatggcct ttaaaaac 1858

```

<210> 8
 <211> 612
 <212> PRT
 <213> Homo sapiens

```

<400> 8
Met Asp Val Ser Leu Cys Pro Ala Lys Cys Ser Phe Trp Arg Ile Phe
 1          5          10          15
Leu Leu Gly Ser Val Trp Leu Asp Tyr Val Gly Ser Val Leu Ala Cys
 20          25          30
Pro Ala Asn Cys Val Cys Ser Lys Thr Glu Ile Asn Cys Arg Arg Pro
 35          40          45
Asp Asp Gly Asn Leu Phe Pro Leu Leu Glu Gly Gln Asp Ser Gly Asn
 50          55          60
Ser Asn Gly Asn Ala Asn Ile Asn Ile Thr Asp Ile Ser Arg Asn Ile
 65          70          75          80
Thr Ser Ile His Ile Glu Asn Trp Arg Ser Leu His Thr Leu Asn Ala
 85          90          95
Val Asp Met Glu Leu Tyr Thr Gly Leu Gln Lys Leu Thr Ile Lys Asn
100          105          110
Ser Gly Leu Arg Ser Ile Gln Pro Arg Ala Phe Ala Lys Asn Pro His
115          120          125
Leu Arg Tyr Ile Asn Leu Ser Ser Asn Arg Leu Thr Thr Leu Ser Trp
130          135          140
Gln Leu Phe Gln Thr Leu Ser Leu Arg Glu Leu Gln Leu Glu Gln Asn
145          150          155          160
Phe Phe Asn Cys Ser Cys Asp Ile Arg Trp Met Gln Leu Trp Gln Glu
165          170          175
Gln Gly Glu Ala Lys Leu Asn Ser Gln Asn Leu Tyr Cys Ile Asn Ala
180          185          190
Asp Gly Ser Gln Leu Pro Leu Phe Arg Met Asn Ile Ser Gln Cys Asp
195          200          205
Leu Pro Glu Ile Ser Val Ser His Val Asn Leu Thr Val Arg Glu Gly
210          215          220
Asp Asn Ala Val Ile Thr Cys Asn Gly Ser Gly Ser Pro Leu Pro Asp
225          230          235          240
Val Asp Trp Ile Val Thr Gly Leu Gln Ser Ile Asn Thr His Gln Thr
245          250          255
Asn Leu Asn Trp Thr Asn Val His Ala Ile Asn Leu Thr Leu Val Asn
260          265          270
Val Thr Ser Glu Asp Asn Gly Phe Thr Leu Thr Cys Ile Ala Glu Asn
275          280          285
Val Val Gly Met Ser Asn Ala Ser Val Ala Leu Thr Val Tyr Tyr Pro
290          295          300
Pro Arg Val Val Ser Leu Glu Glu Pro Glu Leu Arg Leu Glu His Cys
305          310          315          320
Ile Glu Phe Val Val Arg Gly Asn Pro Pro Thr Leu His Trp Leu

```

```

          325          330          335
His Asn Gly Gln Pro Leu Arg Glu Ser Lys Ile Ile His Val Glu Tyr
          340          345          350
Tyr Gln Glu Gly Glu Ile Ser Glu Gly Cys Leu Leu Phe Asn Lys Pro
          355          360          365
Thr His Tyr Asn Asn Gly Asn Tyr Thr Leu Ile Ala Lys Asn Pro Leu
          370          375          380
Gly Thr Ala Asn Gln Thr Ile Asn Gly His Phe Leu Lys Glu Pro Phe
385          390          395          400
Pro Glu Ser Thr Asp Asn Phe Ile Leu Phe Asp Glu Val Ser Pro Thr
          405          410          415
Pro Pro Ile Thr Val Thr His Lys Pro Glu Glu Asp Thr Phe Gly Val
          420          425          430
Ser Ile Ala Val Gly Leu Ala Ala Phe Ala Cys Val Leu Leu Val Val
          435          440          445
Leu Phe Val Met Ile Asn Lys Tyr Gly Arg Arg Ser Lys Phe Gly Met
          450          455          460
Lys Gly Pro Val Ala Val Ile Ser Gly Glu Glu Asp Ser Ala Ser Pro
465          470          475          480
Leu His His Ile Asn His Gly Ile Thr Thr Pro Ser Ser Leu Asp Ala
          485          490          495
Gly Pro Asp Thr Val Val Ile Gly Met Thr Arg Ile Pro Val Ile Glu
          500          505          510
Asn Pro Gln Tyr Phe Arg Gln Gly His Asn Cys His Lys Pro Asp Thr
          515          520          525
Trp Val Phe Ser Asn Ile Asp Asn His Gly Ile Leu Asn Leu Lys Asp
          530          535          540
Asn Arg Asp His Leu Val Pro Ser Thr His Tyr Ile Tyr Glu Glu Pro
545          550          555          560
Glu Val Gln Ser Gly Glu Val Ser Tyr Pro Arg Ser His Gly Phe Arg
          565          570          575
Glu Ile Met Leu Asn Pro Ile Ser Leu Pro Gly His Ser Lys Pro Leu
          580          585          590
Asn His Gly Ile Tyr Val Glu Asp Val Asn Val Tyr Phe Ser Lys Gly
          595          600          605
Arg His Gly Phe
610

```

<210> 9
 <211> 790
 <212> PRT
 <213> Homo sapiens

```

<400> 9
Met Leu Arg Gly Gly Arg Arg Gly Gln Leu Gly Trp His Ser Trp Ala
 1          5          10          15
Ala Gly Pro Gly Ser Leu Leu Ala Trp Leu Ile Leu Ala Ser Ala Gly
          20          25          30
Ala Ala Pro Cys Pro Asp Ala Cys Cys Pro His Gly Ser Gly Leu
          35          40          45
Arg Cys Thr Arg Asp Gly Ala Leu Asp Ser Leu His His Leu Pro Gly
          50          55          60
Ala Glu Asn Leu Thr Glu Leu Tyr Ile Glu Asn Gln Gln His Leu Gln
65          70          75          80
His Leu Glu Leu Arg Asp Leu Arg Gly Leu Gly Glu Leu Arg Asn Leu
          85          90          95
Thr Ile Val Lys Ser Gly Leu Arg Phe Val Ala Pro Asp Ala Phe His
          100          105          110
Phe Thr Pro Arg Leu Ser Arg Leu Asn Leu Ser Phe Asn Ala Leu Glu
          115          120          125
Ser Leu Ser Trp Lys Thr Val Gln Gly Leu Ser Leu Gln Glu Leu Val
          130          135          140

```

Leu 145	Ser	Gly	Asn	Pro	Leu 150	His	Cys	Ser	Cys	Ala 155	Leu	Arg	Trp	Leu 160	Gln
Arg	Trp	Glu	Glu	Glu 165	Gly	Leu	Gly	Gly	Val 170	Pro	Glu	Gln	Lys	Leu 175	Gln
Cys	His	Gly	Gln 180	Gly	Pro	Leu	Ala	His 185	Met	Pro	Asn	Ala	Ser 190	Cys	Gly
Val	Pro	Thr 195	Leu	Lys	Val	Gln	Val 200	Pro	Asn	Ala	Ser	Val 205	Asp	Val	Gly
Asp	Asp 210	Val	Leu	Leu	Arg	Cys 215	Gln	Val	Glu	Gly	Arg 220	Gly	Leu	Glu	Gln
Ala 225	Gly	Trp	Ile	Leu	Thr 230	Glu	Leu	Glu	Gln	Ser 235	Ala	Thr	Val	Met	Lys 240
Ser	Gly	Gly	Leu	Pro 245	Ser	Leu	Gly	Leu	Thr 250	Leu	Ala	Asn	Val	Thr 255	Ser
Asp	Leu	Asn	Arg 260	Lys	Asn	Leu	Thr	Cys 265	Trp	Ala	Glu	Asn	Asp 270	Val	Gly
Arg	Ala	Glu 275	Val	Ser	Val	Gln	Val 280	Asn	Val	Ser	Phe	Pro	Ala 285	Ser	Val
Gln	Leu 290	His	Thr	Ala	Val	Glu 295	Met	His	His	Trp	Cys 300	Ile	Pro	Phe	Ser
Val 305	Asp	Gly	Gln	Pro	Ala 310	Pro	Ser	Leu	Arg	Trp 315	Leu	Phe	Asn	Gly	Ser 320
Val	Leu	Asn	Glu	Thr 325	Ser	Phe	Ile	Phe	Thr 330	Glu	Phe	Leu	Glu	Pro 335	Ala
Ala	Asn	Glu	Thr 340	Val	Arg	His	Gly	Cys 345	Leu	Arg	Leu	Asn	Gln 350	Pro	Thr
His	Val	Asn 355	Asn	Gly	Asn	Tyr	Thr 360	Leu	Leu	Ala	Ala	Asn 365	Pro	Phe	Gly
Gln	Ala 370	Ser	Ala	Ser	Ile	Met 375	Ala	Ala	Phe	Met	Asp 380	Asn	Pro	Phe	Glu
Phe 385	Asn	Pro	Glu	Asp	Pro 390	Ile	Pro	Asp	Thr	Asn 395	Ser	Thr	Ser	Gly	Asp 400
Pro	Val	Glu	Lys	Lys 405	Asp	Glu	Thr	Pro	Phe 410	Gly	Val	Ser	Val	Ala 415	Val
Gly	Leu	Ala	Val 420	Phe	Ala	Cys	Leu	Phe 425	Leu	Ser	Thr	Leu	Leu 430	Leu	Val
Leu	Asn	Lys 435	Cys	Gly	Arg	Arg	Asn 440	Lys	Phe	Gly	Ile	Asn 445	Arg	Pro	Ala
Val 450	Leu	Ala	Pro	Glu	Asp	Gly 455	Leu	Ala	Met	Ser	Leu 460	His	Phe	Met	Thr
Leu 465	Gly	Gly	Ser	Ser	Leu 470	Ser	Pro	Thr	Glu	Gly 475	Lys	Gly	Ser	Gly	Leu 480
Gln	Gly	His	Ile 485	Ile	Glu	Asn	Pro	Gln	Tyr 490	Phe	Ser	Asp	Ala 495	Cys	Val
His	His	Ile 500	Lys	Arg	Arg	Asp	Ile 505	Val	Leu	Lys	Trp	Glu	Leu 510	Gly	Glu
Gly	Ala	Phe 515	Gly	Lys	Val	Phe	Leu 520	Ala	Glu	Cys	His	Asn 525	Leu	Leu	Pro
Glu 530	Gln	Asp	Lys	Met	Leu	Val 535	Ala	Val	Lys	Ala	Leu 540	Lys	Glu	Ala	Ser
Glu 545	Ser	Ala	Arg	Gln	Asp 550	Phe	Gln	Arg	Glu	Ala 555	Glu	Leu	Leu	Thr	Met 560
Leu	Gln	His	Gln	His 565	Ile	Val	Arg	Phe	Phe 570	Gly	Val	Cys	Thr	Glu 575	Gly
Arg	Pro	Leu	Leu 580	Met	Val	Phe	Glu	Tyr 585	Met	Arg	His	Gly	Asp 590	Leu	Asn
Arg	Phe	Leu 595	Arg	Ser	His	Gly	Pro 600	Asp	Ala	Lys	Leu	Leu 605	Ala	Gly	Gly
Glu	Asp 610	Val	Ala	Pro	Gly	Pro 615	Leu	Gly	Leu	Gly	Gln 620	Leu	Leu	Ala	Val
Ala 625	Ser	Gln	Val	Ala	Ala 630	Gly	Met	Val	Tyr	Leu 635	Ala	Gly	Leu	His	Phe 640
Val	His	Arg	Asp	Leu	Ala	Thr	Arg	Asn	Cys	Leu	Val	Gly	Gln	Gly	Leu

645 650 655
 val val Lys ile Gly Asp Phe Gly Met Ser Arg Asp ile Tyr Ser Thr
 660 665 670
 Asp Tyr Tyr Arg val Gly Gly Arg Thr Met Leu Pro ile Arg Trp Met
 675 680 685
 Pro Pro Glu Ser ile Leu Tyr Arg Lys Phe Thr Thr Glu Ser Asp val
 690 695 700
 Trp Ser Phe Gly val val Leu Trp Glu ile Phe Thr Tyr Gly Lys Gln
 705 710 715 720
 Pro Trp Tyr Gln Leu Ser Asn Thr Glu Ala ile Asp Cys ile Thr Gln
 725 730 735
 Gly Arg Glu Leu Glu Arg Pro Arg Ala Cys Pro Pro Glu val Tyr Ala
 740 745 750
 ile Met Arg Gly Cys Trp Gln Arg Glu Pro Gln Gln Arg His Ser ile
 755 760 765
 Lys Asp Val His Ala Arg Leu Gln Ala Leu Ala Gln Ala Pro Pro val
 770 775 780
 Tyr Leu Asp val Leu Gly
 785 790

<210> 10
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 10
 tgygayatha tgtggytnaa rac

23

<210> 11
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 11
 tggatgcary tntggcarca rca

23

<210> 12
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 12
 ytcrtcyttt ccrtaytcrt t

21

<210> 13
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 13

ccytcytrt artaytcnac gtg 23

<210> 14
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 14
 cacgtcaaca acggcaacta ca 22

<210> 15
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 15
 ggaaggatga gaaacagatt tctgc 25

<210> 16
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 16
 catcaatggc cacttcctca agg 23

<210> 17
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 17
 agtggtttcg tccttcttct cc 22

<210> 18
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 18
 gagatgtgcc cgaccggttg tatc 24

<210> 19
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Synthetic DNA
 <400> 19
 cacagtgata ggaggtgtgg ga 22
 <210> 20
 <211> 19
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic DNA
 <400> 20
 ggatgtggct ccaggcccc 19
 <210> 21
 <211> 19
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic DNA
 <400> 21
 gggcaaccgcg cccacggaa 19
 <210> 22
 <211> 19
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic DNA
 <400> 22
 acgccaggcc aagggtag 19
 <210> 23
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic DNA
 <400> 23
 taaccactcc cagcccctgg 20
 <210> 24
 <211> 20
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic DNA
 <400> 24
 ttggtggcct ccagcggcag 20
 <210> 25
 <211> 22
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 25

aattcatgac caccagccac ca

22

<210> 26

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 26

gctcctcggg actgcatgc

20

<210> 27

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 27

atgtcgccct ggccgaggtg gcat

24

<210> 28

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 28

aagctcaaca gccagaacct c

21

<210> 29

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 29

cagctctgtg aggatccagc c

21

<210> 30

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 30

ccgaccggtt ttatcagtga c

21

<210> 31
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 31
 atgatcttgg actcccgag agg

23

<210> 32
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 32
 cttggccaag gcatctccgg t

21

<210> 33
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 33
 atgtgcagca cattaagagg a

21

<210> 34
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 34
 ttatacacag gcttaagcca tcca

24

<210> 35
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic DNA

<400> 35
 aggagcatc cagcgaatg

19

<210> 36
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <221> PEPTIDE
 <222> (0)...(0)

<400> 36

Glu Ser Thr Asp Asn Phe Ile Leu Phe
1 5

<210> 37

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<221> PEPTIDE

<222> (0)...(0)

<400> 37

Leu Phe Asn Pro Ser Gly Asn Asp Phe Cys Ile Trp Cys Glu
1 5 10

<210> 38

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic DNA

<400> 38

tctccttctc gccggtgg

18

<210> 39

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<221> PEPTIDE

<222> (0)...(0)

<400> 39

Ser Pro Ser Arg Arg Trp
1 5

<210> 40

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<221> PEPTIDE

<222> (0)...(0)

<400> 40

Phe Val Leu Phe His Lys Ile Pro Leu Asp Gly
1 5 10

<210> 41

<211> 84

<212> PRT

<213> Homo sapiens

<400> 41

Trp Val Phe Ser Asn Ile Asp Asn His Gly Ile Leu Asn Leu Lys Asp
 1 5 10 15
 Asn Arg Asp His Leu Val Pro Ser Thr His Tyr Ile Tyr Glu Glu Pro
 20 25 30
 Glu Val Gln Ser Gly Glu Val Ser Tyr Pro Arg Ser His Gly Phe Arg
 35 40 45
 Glu Ile Met Leu Asn Pro Ile Ser Leu Pro Gly His Ser Lys Pro Leu
 50 55 60
 Asn His Gly Ile Tyr Val Glu Asp Val Asn Val Tyr Phe Ser Lys Gly
 65 70 75 80
 Arg His Gly Phe

<210> 42

<211> 247

<212> PRT

<213> Homo sapiens

<400> 42

Met Thr Ile Leu Phe Leu Thr Met Val Ile Ser Tyr Phe Gly Cys Met
 1 5 10 15
 Lys Ala Ala Pro Met Lys Glu Ala Asn Ile Arg Gly Gln Gly Gly Leu
 20 25 30
 Ala Tyr Pro Gly Val Arg Thr His Gly Thr Leu Glu Ser Val Asn Gly
 35 40 45
 Pro Lys Ala Gly Ser Arg Gly Leu Thr Ser Leu Ala Asp Thr Phe Glu
 50 55 60
 His Met Ile Glu Glu Leu Leu Asp Glu Asp Gln Lys Val Arg Pro Asn
 65 70 75 80
 Glu Glu Asn Asn Lys Asp Ala Asp Leu Tyr Thr Ser Arg Val Met Leu
 85 90 95
 Ser Ser Gln Val Pro Leu Glu Pro Pro Leu Leu Phe Leu Leu Glu Glu
 100 105 110
 Tyr Lys Asn Tyr Leu Asp Ala Ala Asn Met Ser Met Arg Val Arg Arg
 115 120 125
 His Ser Asp Pro Ala Arg Arg Gly Glu Leu Ser Val Cys Asp Ser Ile
 130 135 140
 Ser Glu Trp Val Thr Ala Ala Asp Lys Lys Thr Ala Val Asp Met Ser
 145 150 155 160
 Gly Gly Thr Val Thr Val Leu Glu Lys Val Pro Val Ser Lys Gly Gln
 165 170 175
 Leu Lys Gln Tyr Phe Tyr Glu Thr Lys Cys Asn Pro Met Gly Tyr Thr
 180 185 190
 Lys Glu Gly Cys Arg Gly Ile Asp Lys Arg His Trp Asn Ser Gln Cys
 195 200 205
 Arg Thr Thr Gln Ser Tyr Val Arg Ala Leu Thr Met Asp Ser Lys Lys
 210 215 220
 Arg Ile Gly Trp Arg Phe Ile Arg Ile Asp Thr Ser Cys Val Cys Thr
 225 230 235 240
 Leu Thr Ile Lys Arg Gly Arg
 245

<210> 43

<211> 258

<212> PRT

<213> Rattus norvegicus

<400> 43

Met Ser Ile Leu Phe Tyr Val Ile Phe Leu Ala Tyr Leu Arg Gly Ile
 Page 18

```

1      5      10      15
Gln Gly Asn Asn Met Asp Gln Arg Ser Leu Pro Glu Asp Ser Leu Asn
20
Ser Leu Ile Ile Lys Leu Ile Gln Ala Asp Ile Leu Lys Asn Lys Leu
35
Ser Lys Gln Met Val Asp Val Lys Glu Asn Tyr Gln Ser Thr Leu Pro
50
Lys Ala Glu Ala Pro Arg Glu Pro Glu Gln Gly Glu Ala Thr Arg Ser
65
Glu Phe Gln Pro Met Ile Ala Thr Asp Thr Glu Leu Leu Arg Gln Gln
85
Arg Arg Tyr Asn Ser Pro Arg Val Leu Leu Ser Asp Ser Thr Pro Leu
100
Glu Pro Pro Pro Leu Tyr Leu Met Glu Asp Tyr Val Gly Asn Pro Val
115
Val Thr Asn Arg Thr Ser Pro Arg Arg Lys Arg Tyr Ala Glu His Lys
130
Ser His Arg Gly Glu Tyr Ser Val Cys Asp Ser Glu Ser Leu Trp Val
145
Thr Asp Lys Ser Ser Ala Ile Asp Ile Arg Gly His Gln Val Thr Val
165
Leu Gly Glu Ile Lys Thr Gly Asn Ser Pro Val Lys Gln Tyr Phe Tyr
180
Glu Thr Arg Cys Lys Glu Ala Arg Pro Val Lys Asn Gly Cys Arg Gly
195
Ile Asp Asp Lys His Trp Asn Ser Gln Cys Lys Thr Ser Gln Thr Tyr
210
Val Arg Ala Leu Thr Ser Glu Asn Asn Lys Leu Val Gly Trp Arg Trp
225
Ile Arg Ile Asp Thr Ser Cys Val Cys Ala Leu Ser Arg Lys Ile Gly
245
Arg Thr
250
255

```

<210> 44
 <211> 210
 <212> PRT
 <213> Homo sapien

```

<400> 44
Met Leu Pro Leu Pro Ser Cys Ser Leu Pro Ile Leu Leu Leu Phe Leu
1      5      10      15
Leu Pro Ser Val Pro Ile Glu Ser Gln Pro Pro Pro Ser Thr Leu Pro
20
Pro Phe Leu Ala Pro Glu Trp Asp Leu Leu Ser Pro Arg Val Val Leu
35
Ser Arg Gly Ala Pro Ala Gly Pro Pro Leu Leu Phe Leu Leu Glu Ala
50
Gly Ala Phe Arg Glu Ser Ala Gly Ala Pro Ala Asn Arg Ser Arg Arg
65
Gly Val Ser Glu Thr Ala Pro Ala Ser Arg Arg Gly Glu Leu Ala Val
85
Cys Asp Ala Val Ser Gly Trp Val Thr Asp Arg Arg Thr Ala Val Asp
100
Leu Arg Gly Arg Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala Gly
115
Gly Ser Pro Leu Arg Gln Tyr Phe Phe Glu Thr Arg Cys Lys Ala Asp
130
Asn Ala Glu Glu Gly Gly Pro Gly Ala Gly Gly Gly Gly Cys Arg Gly
145
Val Asp Arg Arg His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser Tyr
165
170
175

```

Val Arg Ala Leu Thr Ala Asp Ala Gln Gly Arg Val Gly Trp Arg Trp
 180 185 190
 Ile Arg Ile Asp Thr Ala Cys Val Cys Thr Leu Leu Ser Arg Thr Gly
 195 200 205
 Arg Ala
 210

<210> 45
 <211> 210
 <212> PRT
 <213> Homo sapien

<400> 45
 Met Leu Pro Leu Pro Ser Cys Ser Leu Pro Ile Leu Leu Leu Phe Leu
 1 5 10 15
 Leu Pro Ser Val Pro Ile Glu Ser Gln Pro Pro Pro Ser Thr Leu Pro
 20 25 30
 Pro Phe Leu Ala Pro Glu Trp Asp Leu Leu Ser Pro Arg Val Val Leu
 35 40 45
 Ser Arg Gly Ala Pro Ala Gly Pro Pro Leu Leu Phe Leu Leu Glu Ala
 50 55 60
 Gly Ala Phe Arg Glu Ser Ala Gly Ala Pro Ala Asn Arg Ser Arg Arg
 65 70 75 80
 Gly Val Ser Glu Thr Ala Pro Ala Ser Arg Arg Gly Glu Leu Ala Val
 85 90 95
 Cys Asp Ala Val Ser Gly Trp Val Thr Asp Arg Arg Thr Ala Val Asp
 100 105 110
 Leu Arg Gly Arg Glu Val Glu Val Leu Gly Glu Val Pro Ala Ala Gly
 115 120 125
 Gly Ser Pro Leu Arg Gln Tyr Phe Phe Glu Thr Arg Cys Lys Ala Asp
 130 135 140
 Asn Ala Glu Glu Gly Gly Pro Gly Ala Gly Gly Gly Cys Arg Gly
 145 150 155 160
 Val Asp Arg Arg His Trp Val Ser Glu Cys Lys Ala Lys Gln Ser Tyr
 165 170 175
 Val Arg Ala Leu Thr Ala Asp Ala Gln Gly Arg Val Gly Trp Arg Trp
 180 185 190
 Ile Arg Ile Asp Thr Ala Cys Val Cys Thr Leu Leu Ser Arg Thr Gly
 195 200 205
 Arg Ala
 210